

## **REMARKS/ARGUMENTS**

In the Office Action claims 1, 3-11 and 17-42 are rejected under 35 USC 112 as being indefinite. Claims 1, 3-7, 9, 24-25 and 28-30 are rejected as being anticipated by Nees, et al., and claim 23 is objected to based on its referencing the specification. Applicant has amended the chemical structures at pages 4, 5, 9, 10, 12, 14, 18, 19, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34, and 37 and in claims 1, 23 and 26.

Applicant also notes that Scheme 4 has been amended to correct a typographical error. The correction relates to Scheme 4 (appearing at page 12 of the application, page 5 of the amendment) in which the reaction indicates 850-1.1mV instead of 1.1V or 1100 mV as supported throughout the specification as filed. Scheme 4 has been corrected to indicate 850-1100mV. Support for this correction is found throughout the specification as filed, for example at:

Figure 2. Cyclic voltammograms of compounds 1 and 1'

Figure 8(a). Cyclic voltammograms of compounds 3 and 3'

Page 6, description of Figure 2

Page 8, description of Figure 8(a)

Page 20, Cyclic voltammetry of compound 1 and 1'

Page 26, Cyclic voltammetry of compound 3.

First applicant acknowledges with thanks the Examiner's withdrawal of the previous restriction requirement.

### **Claim Rejections – 35 USC § 112, 2<sup>nd</sup>**

The Examiner rejected claims 1, 3 to 11, and 17 to 42 under 35 U.S.C. 112, second paragraph, alleging that the claims fail to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Responding in

point order to the particular rejections raised, the Applicant respectfully makes the following submissions:

a. The Examiner alleged that the structure of Formula I is unclear as it cannot be ascertained whether a tetra cyclic ring system, wherein the 7 membered ring is disubstituted with R4, is being claimed, or whether the R4 substituents are on each of the thiophene rings, in which case there is no polycyclic ring system being claimed.

Solely in order to expedite prosecution of the instant application, the structure of Formula I, appearing in pending claim 1, has been amended for purposes of clarity. Specifically, the structure has been amended to clearly show that the compounds of Formula I are ring-open isomers, wherein the R4 substituents are on each of the thiophene rings, as supported throughout the specification as filed.

b. The Examiner alleged that the structure of Formula II is unclear as it cannot be ascertained whether the R4 substituent, identified by the Examiner, is on the carbon shared between the thiophene ring and the carbocyclic ring, or whether there is a bridged system being claimed.

Solely in order to expedite prosecution of the instant application, the structure of Formula II, appearing in pending claim 1, has been amended for purposes of clarity. Specifically, the structure has been amended to clearly show that the compounds of Formula II are ring-closed isomers, wherein the R4 substituents are on the carbon that is shared between the thiophene ring and the carbocyclic ring, as supported throughout the specification as filed.

c. The Examiner alleged that the phrase “or both R2 when taken together form CH=CH and forms part of the polymer backbone” is unclear. Specifically, the Examiner has stated that it is unclear whether what is being claimed includes R2 substituents that

connect within the 5 membered ring, or outside of the ring, to form a type of bridged ring system.

Applicant respectfully traverses the Examiner's rejection. The Applicant first wishes to point out the inaccuracy in the Examiner's reference to the language in the claims. The correct phrase recited in the pending claims is "or both R2 when taken together form CH=CH, or R2 is CH=CH and forms part of a polymer backbone". The specification at pages 14 and 15 clearly describes these claimed compounds and, in this regard, the Examiner is specifically referred to Scheme 5 and Table 2 in which the structure of the compounds wherein "R2 taken together form CH=CH" and wherein "R2 is CH=CH and forms part of a polymer backbone" are illustrated. Accordingly, the Applicant asserts that a person of skill in the art would clearly understand the meaning of the phrase "or both R2 when taken together form CH=CH, or R2 is CH=CH and forms part of a polymer backbone".

d. The Examiner alleged that the structure of Formula IV is unclear as it cannot be ascertained whether R4 is being claimed as a substituent on the carbon shared between the thiophene ring and carbocyclic ring, or whether R4 is the name of the carbocyclic ring.

Solely in order to expedite prosecution of the instant application, the structure of Formula IV, appearing in pending claim 26, has been amended for purposes of clarity. Specifically, the structure has been amended to clearly show that R4 is claimed as a substituent, and is not the name of the carbocyclic ring, as supported throughout the specification as filed. The Applicant has additionally amended the structure of Formula III appearing in pending claim 26 for purposes of clarity. Support for this amendment is also supported throughout the specification as filed.

e. The Examiner alleged that it is unclear whether or not the term “aryl” recited in the claims include heteroaryl groups.

Applicant respectfully traverses the Examiner's rejection. The Applicant refers the Examiner to pages 10 and 11 of the specification, particularly Scheme 2 and Table 1, as well as Examples 1, 2, 3, and 4, relating to compounds 1 to 4, respectively, in which the substituents of the claimed compounds are described. In this regard, the Applicant respectfully points out that the aryl groups that are described include heteroaryls, substituted aryls, and substituted heteroaryls. Accordingly, as supported in the specification as filed, the Applicant asserts that a person of skill in the art would readily appreciate that the term “aryl” recited in the claims includes not only aryl groups but also heteroaryl, substituted aryl, and substituted heteroaryl groups.

For the reasons provided above, therefore, the Applicant asserts that the amended claims submitted herewith comply with 35 U.S.C. 112, second paragraph, and, therefore, respectfully requests that the Examiner withdraw rejections (a) through (e).

#### **Claim Rejections – 35 USC § 102**

The Examiner has rejected claims 1, 3 to 7, 9, 24 to 25, and 28 to 30 under 35 U.S.C. 102(b) as being anticipated by Nees et al. [Nees, D. Switching flow and phase behaviour in surfactant systems via photochemical reactions. Progress in Colloid and Polymer Science. 101 (1996) 7585]. Specifically, the Examiner alleged that the formula on page 77 of Nees et al. anticipates the claimed compounds of Formula II, wherein R1 and R2=F, R3=H, R5=H, and R4=aryl=heteroaryl.

Applicant respectfully traverses the Examiner's rejection. The Applicant notes that the Examiner has referred specifically to the formula on page 77 of Nees et al.

wherein the R group is referred to as 1,3-oxazole. The applicant asserts that the R group is in fact 4,5-dihydro-1,3-oxazole according to The International Union of Pure and Applied Chemistry (IUPAC) [Powell, W.H. Revision of the Extended Hantzsch-Widman System of Nomenclature for Heteromonocycles. Pure and Applied Chemistry. 55 (1983) 409-416], which is not an aryl group as recited in the claims. Accordingly, the Applicant respectfully asserts that Nees et al. does not anticipate pending claims 1, 3 to 7, 9, 24 to 25, and 28 to 30. The Applicant further asserts that the claims comply with 35 U.S.C. 102(b) and, therefore, respectfully requests that the Examiner withdraw this rejection.

### **Claim Objections**

The Examiner has objected to claim 23, alleging that the claim includes an informality. The Examiner has stated that a claim must stand alone without reference to the specification (MPEP 2173.05(s)). As such the Examiner has requested that the reaction schemes be imported into the claim.

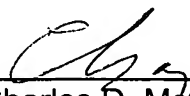
Solely in order to expedite prosecution of the instant application, pending claim 23 has been amended to import the reaction schemes into the claim as requested by the Examiner. The Applicant notes that the structures of the reaction schemes have been drawn so as to avoid any issues relating to clarity. Support for the schemes is found throughout the specification as filed.

The applicant submits that no extension of time is required with this amendment, but provisionally petitions for an extension of time, if necessary. Further, the applicant asserts that no additional claim fees are due with this amendment. However, if additional fees are required, the Commissioner is hereby authorized to charge any required additional fee for any additional extension of time or additional claims to the Deposit Account No. 03-1550.

Dated: November 19, 2009

Respectfully submitted,

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Amendments, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Dated: November 19, 2009

  
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Charles D. McClung